



techniques.

2. By preventing ATC from acquiring an accepted test method standard for its innovative technique, the Defendants conspired to maintain their monopoly in mechanical testing equipment, in violation of Section 2 of the Sherman Antitrust Act, 15 U.S.C. § 2, Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§15(a) and 26, Chapter 93A of the Massachusetts General Law and common law commercial disparagement. Through their conspired efforts, the competitors' scheme has stifled important advances in technology, threatened ATC with the loss of its principal business, and placed the public in peril.

### **JURISDICTION AND VENUE**

3. The Court has jurisdiction under 28 U.S.C. § 1331 (federal question) and 28 U.S.C. § 1337 (commerce and antitrust regulation), as this action arises under Section 2 of the Sherman Act, 15 U.S.C. § 2 and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§15(a) and 26. The Court also has jurisdiction over the state and common law claims in this matter under 28 U.S.C. §§ 1332 and 1337(d) (diversity), in that this is a case with multiple defendants who are citizens of a state different from that of the Plaintiff in which the amount in controversy exceeds the sum of \$90 million, exclusive of interest.

4. Venue is appropriate under 15 U.S.C. § 1711 because the defendants' actions had the intended effect of causing injury to citizens throughout the United States, including those in this district.

### **THE PARTIES**

5. Plaintiff ATC is a Tennessee corporation with a principal place of business located in Oak Ridge. Its main business is the Stress-Strain Microprobe® System, which adapts the ABI technique to bridges, pipelines, petrochemical storage tanks and other vessels, US Army tank gun tubes, NASA

components, nuclear weapon components, nuclear pressure vessel metals, and other areas where metals undergo stress. Fahmy Haggag, president of ATC, has been a member of ASTM since 1985.

6. Defendant American Society for Testing and Materials (ASTM, International) is a Pennsylvania nonprofit corporation with principal offices at 100 Barr Harbor Drive, West Conshohocken, Pennsylvania.

7. ASTM is one of the largest standards-setting organizations in the world and has more than 30,000 members worldwide and 141 technical standard writing committees. These committees set standards over a breadth of industry – consumer products, construction materials, environmental assessment, medical devices, petroleum and others. These committees have set more than 12,000 standards, which are followed in more than 130 nations. Many of ASTM's standards have been adopted by reference into state and federal law.

8. Most of ASTM's officers and committee chairs and co-chairs, subcommittees and working groups are associated with the industries for which ASTM standards are promulgated.

9. Defendant Instron (MA) is a subsidiary of Illinois Tool Works, Inc., a public company based in Glenview, Illinois. Instron Corporation is headquartered at 825 University Avenue, Norwood, Massachusetts 020062, and is a manufacturer of tensile and hardness testing machines. Instron employees are members of defendant ASTM, as well as voting members of committees E28 and E8. Each manufacturer/vendor can have multiple members but must designate one voter per committee or subcommittee. Wilson Hardness is a subsidiary of Instron based at 825 University Avenue, Norwood. Edward Tobolski is retired from Wilson Hardness and currently chairs the E28 committee of ASTM. He has held officer positions in this committee since 1997.

10. Defendant Tinius Olsen International Co. is a privately-held Pennsylvania corporation with principal offices at 1065 Easton Rd., Horsham, PA and is a manufacturer of tensile, impact, and

hardness testing machines. Tinius Olsen employees are members of defendant ASTM as well as a voting member of committees E28 and E8. Earl Ruth is the Director of Technology of Tinius Olsen, a member of the ASTM Board of Directors, past chair E28, Head of Delegates to US TAG (Technical Advisory Group) to ISO TC 164/SC 1 (Uniaxial Testing). John Millane is the President of Tinius Olsen, retired in 2011, and is the chair of ASTM subcommittee E28.94 (US TAG to ISO TC164).

11. Defendant MTS Systems Corporation is a public Minnesota company with its principal office at 14000 Technology Drive, Eden Prairie, MN and is a manufacturer of tensile and other mechanical testing machines. Its former employee, Jennifer Hay, is a member of E28.06 who consistently requested the change of the identity of ABI to IIT of the nano-indentation hardness practice. Until 2008, MTS was the owner of Nano Instruments, which manufactured nano-indentation test equipment, also known as Instrumented Indentation Testing (IIT).

#### **RELEVANT MARKET**

12. The Defendants' agreement to discredit ATC's technique is *per se* illegal and requires no allegations of market definition.

13. To the extent that a definition of such a market is required, the market is that of equipment for mechanical testing, a market that encompasses tensile, compression, impact, fracture toughness and hardness testing on samples machined from metallic materials. This market generates about \$5 billion a year in revenue worldwide, and the Defendants command about 70 percent of the U.S. portion of that market.

14. Within this market are two categories of testing. First are the conventional destructive methods using specimens, which are dominated by the Defendants. Second is the innovative, nondestructive Automated Ball Indentation ("ABI") test method, developed by the Plaintiff ATC. The ABI test method is superior and faster and is applicable to in-service components in the field (e.g.,

pipeline testing without cutting sections or service interruption, steel railroad bridges, storage tanks, coke drums, military gun tubes, nuclear weapon components, nuclear reactor components, aerospace components, automotive components, etc.) and small samples and welds in the laboratory.

15. The Defendants largely kept ATC from entering the market. By creating a group boycott of the ABI test method, the Defendants reduced their own output, thereby raising prices to consumers.

16. Because of the inherent risks involved in mechanical testing equipment, this market relies heavily upon reputation, government contracts and a robust sales force. As such, barriers to entry are prohibitive. Absent innovation, successful entry requires years to obtain, regardless of the size of investment made in the market.

17. The relevant Geographic Market is the United States.

#### **INTERSTATE TRADE AND COMMERCE**

18. The business activities of the Defendants were within the flow of, and substantially affected, trade and commerce.

19. During the period of liability, Defendants transacted business in multiple states in a continuous and uninterrupted flow of interstate commerce throughout the United States.

#### **CONDUCT GIVING RISE TO VIOLATIONS OF LAW**

##### **Tensile Yield Strength is a Critical Property in Pipelines**

20. Pipelines are the lifeblood of our nation. In the United States, more than 2.3 million miles of pipelines carry hazardous liquids, such as oil-based products, and natural gas.

21. If a pipeline ruptures, it can explode like a bomb or spill tank loads of toxic chemicals onto the ground. In the past five years, more than 60 people have been killed from pipeline ruptures. For example, in September 2010, a Pacific Gas and Electric ("PG&E") gas pipeline in San Bruno, California ruptured along a seam weld and killed eight people and injured many and damaged or

destroyed 70 homes.

22. Critical to these pipelines and our nation's safety is the issue of tensile yield strength, a property defined by the stress that a material can withstand before permanent deformation. Accurate measurement of the tensile yield strength ensures safe operation of a pipe to withstand these forces without rupturing.

23. For nearly 100 years, tensile yield strength has mainly been measured by cutting a section from the pipe, manufacturing a coupon specimen, and performing a destructive uniaxial tensile test. This process, called *destructive uniaxial tension*, requires shutting the pipe flow off, cutting a piece from the pipe, patching it, and transporting the cut piece to a laboratory for machining and testing.

#### **ATC's Haggag Creates Innovation in Tensile Strength Measurement**

24. In the late 1980s, Fahmy Haggag, a renowned materials engineer based in Oak Ridge, Tennessee, developed a novel test method, automated ball indentation ("ABI"), to measure, non-destructively, tensile properties (yield strength, ultimate strength, stress-strain curve, ductility), and fracture toughness of materials and components on site without the need to cease operation and cut test samples. Although the technology is well suited for many applications, it is especially beneficial to the pipeline industry since stopping product transmission and cutting test samples from a pipe are extremely expensive to pipeline operators and pose a major inconvenience for their customers.

25. Haggag patented the equipment that performs ABI in 1989, U.S. Patent Number 4852397, and developed the ABI test procedure and data analysis and started ATC the same year to commercialize the ABI technology. The ABI test has two major advantages over the destructive tensile test: (a) nondestructive (testing of in-service oil and gas pipelines without cutting a pipe section) and (b) fast (a single ABI test takes less than two minutes).

26. The nondestructive ABI technique is relatively simple, can be performed in minutes by one

person on components in the field, and is much more accurate than conventional testing. Additionally the ABI equipment can be reconfigured to perform conventional/destructive tensile and fracture toughness testing.

27. The value of the process was widely recognized by engineers in the field. In 1996, R&D magazine hailed the development of the Portable/In-Situ Stress-Strain Microprobe (“SSM”) system as one of the 100 Most Technologically Significantly New Products of the Year.

28. Within three years of ATC’s introduction to the market, several pipeline operators adopted ATC’s ABI and Tensile software programs exclusively.

29. Several organizations were also impressed with the technology but stated that in order to accept ABI, they would require an ASTM standard for the technique. These organizations include US Department of Energy, US Department of Transportation (Pipeline and Hazardous Materials Safety Administration, PHMSA), and several pipeline operators.

#### **The ABI Method Threatens the Established Order in Tensile Testing Equipment**

30. ATC’s innovative technique threatened to disrupt the established business of the Defendants that dominate the tensile-testing equipment market.

31. Instron, of Massachusetts, Tinius Olsen, of Pennsylvania, and MTS, of Minnesota, together dominate the destructive tensile testing market. Instron, MTS, and Tinius Olsen have built their reputations on the conventional form of tensile testing (ASTM Standard Test Method E8).

32. The conventional tensile test method requires the extraction of a section of the pipe for machining a specimen for destructive testing. Because the pipe must be shut down to extract a section, the conventional method is significantly more expensive.

33. The localized capability of the ABI method makes it more accurate and suitable for seam and girth welds. Since the ABI test can replace the destructive testing and is more efficient, the test

would greatly reduce the sales of destructive testing machines.

34. For example, an employee of one Canadian steel manufacturer told ATC that they used numerous Instron tensile testing machines to destructively test a large number of tensile specimens to certify their steels products before shipment to their customers. He said if they used a few ABI test machines, they would not need most of the Instron machines and they would save at least \$10 million per year by eliminating the machining cost of specimens.

35. Despite the cost savings, the Defendants are not interested in adopting the ABI technology because an ABI system, in addition to performing the nondestructive ABI test, also performs the destructive tensile and fracture toughness testing of any universal testing machine as sold by the Defendants. Because the Defendants' larger market is in conventional destructive machines, even if the Defendants adopted the ABI technology and sold ABI testing equipment, the change would significantly reduce the bulk of their profits.

36. When Tinius Olsen learned of Haggag's technique, it entered into information-gathering discussions with Haggag about licensing the ABI technology. In a letter dated September 23, 1988, to Haggag, Robert Strimel, Tinius Olsen's assistant to the president and director of technology, acknowledged that Haggag's technique was in Tinius Olsen's market and represented a significant advance over Tinius Olsen's own techniques. To break into the market, however, Strimel pointed out that the technique would need to have "direct ties to existing ASTM designations. New standards might also be required, which usually take a long time."

37. As would eventually come clear, Strimel's letter laid bare Tinius Olson's long-range strategy for dealing with the threat of the ABI technique.

38. To maintain their dominance of the industry, Instron, MTS, and Tinius Olsen would need to squelch ATC's ABI technique by stopping any new ABI test method standard from being developed.



39. In response, ATC's competition started referring to the ABI testers as "hardness testers" to denigrate the technology; although the vendors knew that a hardness tester could not perform a destructive tensile test or produce yield strength and a stress-strain curve.

40. To stave off confusion, ATC changed the name from "ABI Tester" to Stress-Strain Microprobe in 1993. Haggag registered the trademark for the equipment that performs the ABI test method as the Stress-Strain Microprobe® (SSM) System (Trademark 2,888,489, Registered on September 28, 2004). The test name "Automated Ball Indentation" has never been changed and to this day, the SSM is the only equipment that employs ABI technology.

#### **ATC'S Competitors Wield Standards Organizations as Weapons Against ATC**

41. Instron, MTS, and Tinius Olsen used their employees' positions on key national and international standards organizations to promote measures that would discredit the ABI technique and draw allies into their scheme.

42. One of the key standards organizations is the American Society for Testing and Materials, or ASTM International. ASTM adopts voluntary standards for industry to follow. These standards are based on peer review and consensus.

43. Haggag is an active member of the following ASTM committees and subcommittees: E8 Fatigue and Fracture, E8.04 Structural Applications, E8.07 Fracture Mechanics, E10 Nuclear Technology and Applications, E10.02 Nuclear Structural Materials, and E28 Mechanical Testing, E28.02 Ductility and Formability, E28.04 Uniaxial Testing, and E28.06 Indentation Hardness, E28.15 Automated Testing, E28.94 US ISO TAG/TC 164 Mechanical Testing. Also relevant is the A1 Committee on Steel, Stainless Steel and Related Alloys. Haggag is also a member of ASM International.

44. Through their own positions on ASTM committees, Instron and Tinius Olsen were able to

throw insuperable delays and obstructions at ATC.

45. In October 1997, Edward Tobolski, Instron employee, faxed Haggag a letter that stated he believed the “instrumented indentation task” he was chairing should focus on arriving at a “procedure that defines the tolerances for the test forces, depth measurements, indenters, machine compliance, calibration, etc., but does not specify how the data is manipulated to obtain test results. We would leave that for future work.” (emphasis added)

46. In the letter, thus, Tobolski revealed that his intent was for ASTM to block any standard test methods in the future. Fifteen years later, no standard test method has been issued for the innovative ABI test method.

47. It took until 2000 for ASTM to form an ABI task group (E28.06.14), and another two years, December 2002, for the test method to receive a formal ballot in which peers could vote on the proposed ABI standard.

48. At the first ballot in subcommittee E28.06, of 24 peer votes, 21 were affirmative. There were three unresolved negative votes that would prevent the ballot from moving forward.

49. Of the three negative voters, Tobolski and Sam Low were Task Group members and should have resolved their relatively minor issues before the ballot. Low is a National Institute of Standards and Technology employee and a member of the ABI Task, and, as such, should remain impartial. He depends on Ruth and Tobolski, however, for his position on the ASTM subcommittee since the subcommittee chair is appointed by the committee chair not elected by the members. Low’s negative vote aligned him with the conspiracy of the competing vendors.

50. Haggag addressed all of the negative voters’ concerns in great detail; regardless, Low replied in an email sent to Haggag on March 3, 2003, that he preferred to have his negative discussed at the meeting where he could control the outcome. Tobolski responded to Haggag’s attempt to resolve

his negative by returning an edited copy of the ABI draft with all references to ABI changed to IIT.

51. Additionally, Jennifer Hay, of MTS, voted negative as a non-voting member stating that there were several commercially available instrumented indentation systems including the Nano Indenter XP produced by MTS that could produce stress-strain curve as the ABI Method. However, she declined to participate in the round robin study.

52. The third negative voter, Earl Ruth, vice president of Tinius Olsen and E28 Chair, said he would not vote for it because it did not have precision values from a round robin (RR) study. As Committee Chairman, Ruth knew that the RR could not be performed without a balloted draft to follow as a testing “recipe” to prove its validity and repeatability.

53. All manufacturers of testing machines were invited to participate in the ABI round robin study. (For explanation of round robin, or RR, study, see Exhibit A). Despite a boycott of the study by Tinius Olsen, MTS, Instron, and Frontics of Korea, six users and owners of the SSM equipment manufactured by ATC successfully participated. The RR study was completed within two months, and a comprehensive report was submitted to ASTM on April 11, 2003.

54. To resolve Ruth’s negative, a copy of the next draft with a precision statement from the RR study was submitted to Ruth for comments. Ruth proposed deleting the entire analytical procedure and the precision statement of the RR study that he had requested. The ABI Task Group refused to delete the analytical procedure or the RR precision statement because they are mandatory sections required by ASTM Regulations for any Test Method.

55. On December 12, 2003, Ruth demonstrated his false commitment to the process when he sent a coercive email to Haggag and others stating, *“I have no doubt that the inclusion of other technologies in your proposed standard will degrade its reproducibility, but I think that is a small price to pay as opposed to having an unaccepted, unused standard.”* (italics added)

56. Finally, in January 2006, the negative voters prevented the proposed ABI standard from being adopted by a negative vote from Earl Ruth, as he had threatened in his earlier coercive email, to disband the E28.06.14 Task Group on the “ABI Test Methods” in favor of the irrelevant E28.06.11 on the “IIT Practice” supported by the Defendants. Ruth stated, “In general I do not think it is appropriate for us to create a standard based on 1 manufacturers [sic] piece of equipment. I think this work should be abandoned in favor of the more generic work that task group E28.06.11 is doing. To continue [sic] this work as it has been going would be to put an ASTM stamp of approval on a piece of equipment that most of us have been unable to evaluate and it would be unfair to other manufacturers of similar type equipment. *I do not suggest any alternative wording because I think the project should be abandoned.*” (italic added)

57. Under ASTM regulations, officers (committee and subcommittee chairmen) should be impartial, and a single negative will stop the progress of any draft standard. By voting against the draft standard, Ruth stopped the ABI Standard Test method in its tracks. As a pretext, Ruth, Tobolski, and Low alleged that the ABI task was duplicative of another task (The IIT Practice), even though these techniques use different equipment and test procedures and were registered as separate tasks under the same E28.06 subcommittee (E28.06.11 on “IIT Practice” and E28.06.14 on “ABI Test Methods”). It became clear that the Defendants prevented the commissioning of the “ABI Test Methods” under two other subcommittees of E8.08 and E10.02 by claiming that the ABI activity belonged to subcommittee E28.06.

58. After gaining control of the draft, they wasted several years in balloting and finally disbanded the task group drafting the standard test method just before it was to be issued.

59. The ABI Test Method Standard was written as a test method for a specific procedure and data analyses and was not intended for one vendor’s equipment as claimed by the Defendants. Hence,

after the RR study was completed, the ABI Task Group provided test samples of the same materials used in the RR to any lab that requested them. Petrobras of Brazil, using a modified tensile testing machine, submitted successful test results following the ABI draft. Nuclear Research Institute of the Czech Republic, using Russian-made equipment, did not produce valid results. The Defendants made no such request and boycotted the proceedings.

**ATC's Competitors Expand Their Attacks Against the ABI Technique Using the Name of "Instrumented Indentation Testing" to Discredit ABI**

60. With the ABI technique temporarily suppressed as a standard test method, Instron, MTS, and Tinius Olsen embarked on a campaign to discredit the ABI technique altogether.

61. First, they contrived to change the name of ABI to Instrumented Indentation Testing (IIT).

62. IIT, an alternative name for nano-indentation, is an unrelated technique adopted by Instron, MTS, and other hardness equipment vendors at about the same time that ABI was coming onto the market.

63. The IIT technique is commonly known as nano-indentation hardness testing of thin coatings and ceramics of laboratory specimens using a pyramid indenter. The definition of "nano" limits the tested volume to a portion of single grain of metallic materials and the maximum indentation load to less than three pounds. Tensile and fracture toughness properties of metallic materials cannot be determined from a fraction of a single grain. Nano-indentation testing cannot be performed in the field on any pipeline and cannot produce yield strength or other tensile or fracture toughness properties.

64. In contrast, the ABI test is a macroscopic (numerous grains) test that utilizes exclusively a ball indenter to apply progressively increasing loads with intermediate partial unloadings until the final-depth/strain is reached then the ball indenter is fully removed. The ABI test utilizes mathematical

equations to determine the yield strength and the stress-strain curve of metallic test samples or structures (in the field). The ABI test is fully automated, using a computer, a data acquisition system, and a motor capable of applying loads up to 1000 pounds. The ABI test equipment can also perform the conventional destructive tensile test (just like any tensile testing machine). Unlike the IIT of Instron, MTS, etc., the ABI test does test for hardness.

65. In short, the IIT Practice is by no means interchangeable with the ABI Test Method and the IIT procedure cannot produce any of the ABI test results.

66. By claiming ABI is a subset of IIT, ATC's competitors sought to capture ABI's unique measurement capabilities in order to sell more of their equipment that could not actually perform the ABI technique.

67. For example, in an October 2003 article in *ASTM Standardization News*, Tobolski stated that any indentation test technique that collects load versus displacement data must be called an IIT technique and must refer to the IIT Draft Practice. This article states that "other properties such as yield stress and strain-hardening characteristics of metals can also be observed, however, the analyses for those properties have not been developed to the point that they are widely accepted." *Id.* at 36.

68. In September 2004, ASTM issued a ballot for the IIT New Standard Practice. In the Scope, Tobolski used the IIT Practice to co-opt other indentation test methods, such as ABI: "It is intended that other relevant test methods be able to refer to this practice to establish the basic requirements for accuracy, reproducibility and reporting, etc."

69. Again, in 2006 - immediately after the ABI E28.06.14 task was disbanded by Ruth's vote - Tobolski sent Haggag an e-mail message that the ABI draft standard could yet be salvaged if Tobolski took over the project and made several changes.

70. Among other things, Tobolski wanted to change the name "ABI" to "IIT," delete the

precision values from the ABI round robin, and replace the analytical equations with a reference to the vendor's manual. Haggag refused Tobolski's proposal because he believed this change would render the standard useless and discredit the ABI technique.

71. Instead, Haggag contacted subcommittee E10.02 (Nuclear Structural Materials) to start a new ABI activity. The activity was commissioned with Randy Nanstad, of Fracture Mechanics Laboratory of Oak Ridge National Laboratory as the Task Group Chairman. With only some minor modification, the most recent E28.06 ABI draft should have been ready for immediate balloting.

72. Although Nanstad was a co-author on several papers on ABI published by ASME in 1989 and by ASTM in 1990 and 1992, he continued the same scheme that Tinius Olsen, Instron, MTS, and Samuel Low of NIST had pursued in blocking an ABI standard.

73. First, Nanstad delayed the voting process until November 2007.

74. Haggag sent the draft ABI so that it could be balloted, but Nanstad refused to allow a ballot of the draft unless the "ABI" name was changed to Instrumented Ball Indentation "IBI." Haggag refused to accept the change.

75. Nanstad stated that the task group had discussed the draft and decided to change the name to "Instrumented Ball Indentation;" however, Haggag and the other original members of the task group were excluded from these discussions, and the minutes of the official task group meeting do not reflect any such discussion. In an email on November 15, 2007, Nanstad himself stated that the title change was non-substantive and non-technical, yet he stopped the balloting when Fahmy refused to allow the title change.

76. Instead, ASTM simply disbanded the entire task group. The conspirators thereby succeeded again in halting progress on the ABI standard test methods.

77. In 2009, Tobolski of Instron continued his campaign to rename Haggag's ABI test method

when he co-authored the article "Advances in Hardness Testing" in the February 2009 issue of *Advanced Materials and Processes* (AM&P).

78. In that article, Tobolski again renamed Haggag's innovative ABI test method based on its partial unloading technique to an erroneous "Representative Stress Strain (RSS) method." Without any reference to the ABI's partial unloading technique, Tobolski stated that the RSS is a part of Instrumented Indentation Testing (IIT) of Frontics of Korea described in the ISO Report TR/29381 (October 2008). *The earlier ASTM IIT Practice Standard "E2546 of 2007" does not include any of Haggag's innovative partial-unloading technique or any stress-strain test method.* (italics added)

79. The first paragraph and the figure on page 31 of the article obliquely describe the ABI test method including its essential/innovative partial unloading technique without reference to Haggag's work (e.g., US Patent 4,852,397 and a previous AM&P September 2006 article by Haggag). The AM&P monthly magazine is read by more than 36,000 members while the ISO report is only available for purchase from ISO headquarters in Europe. The Defendant Instron continued its conspiracy and disparagement against ATC's ABI technology far beyond ASTM by publicizing the misleading ISO report in AM&P magazine.

**Collusion between Instron, MTS, and Tinius Olsen to keep ABI from the Marketplace**

80. From early on, the Defendants colluded on their scheme to keep ABI from the marketplace.

81. Some members of the ASTM E28.06 committee, including Sam Low and employees of Instron, MTS, and Tinius Olson, made it a practice to meet outside the regularly scheduled meetings. During these unofficial meetings, the committee and subcommittee members and visitors routinely discussed how they would – and should – vote on issues and draft standards.

82. For example, at the March 2 & 3, 1998 meeting of E28.06.11 on IIT Practice at NIST in Gaithersburg, Md., Tobolski, Low, and others devised a plan to disband the ABI Task which they



executed during the May 1998 meeting in Atlanta, GA. Given that these meetings were held as a matter of routine, logic dictates that the ABI activity was always discussed informally among the defendants outside the formal ASTM meetings.

83. Also, Sam Low, chairman of the E28.06, made it a standard practice to allow votes from all meeting attendees regardless of their membership or voting status and without any verification in order to control the outcome of the voting.

84. Low has continually and actively participated in blocking any ABI test method standard. He cancelled, without any reason, an equipment demo scheduled in 2003 for all manufacturers of indentation equipment claiming to produce yield strength and stress-strain curves. He did not want to show the success of the ABI test method or expose the failure of any competing equipment. He refused to ballot the ABI Test Methods drafts numerous times based on the Defendants efforts or motions to quash the activity.

85. Because issues were always discussed outside the formal committee before a formal vote, it is reasonable to assume the conspirators met to collude on their votes before every action taken against ATC and the ABI technique.

**With Efforts Foreclosed for Establishing an ASTM Standard for the ABI Test Method, In 2009 Haggag Turned to the International Standards Organization (ISO) Hoping for a Better Outcome**

86. The Defendants prevented the standardization of the ABI test method under ASTM from 1997 until 2007. After being blocked by the ASTM officers and staff managers, Haggag turned the ABI standardization effort to the International Standards Organization (“ISO”), where, as an international organization, the influence of ASTM might be smaller. Unfortunately, Haggag once again ran into the ongoing conspiracy against his technique since ASTM controls the US participation in ISO for mechanical testing.

87. At the ISO, every country is represented by one vote through a specific organization. Mechanical testing is delegated to ASTM Subcommittee E28.94. Low is the Head of Delegates on the US TAG to ISO TC164/SC 3, the standards development committee for hardness testing. As such, proposals for standards in hardness testing from the US must go through Low. As discussed above, although Sam Low works for NIST, he owes his position at ASTM to Earl Ruth and to Tobolski who became the ASTM E28 Chair following Ruth's elevation to the ASTM Board of Directors. Tobolski is also a delegate to ISO.

88. After Haggag refused to allow Tobolski to co-opt the ABI standard test method, Tobolski called Haggag in 2006 and told him that he would get an issued standard under ISO for the Korean equipment since the 2006 meeting was being held in Seoul, Korea.

89. Tobolski's efforts resulted in a document being submitted for ISO Draft Standard balloting in 2006, but it failed when it was balloted. From his position as US Head of Delegates, Low recommended that it be published instead as an ISO Technical Report, (TR) 29381, with the intent to turn it into a standard later.

90. In 2008, Low leveraged his position to lend credence to the ISO report TR/29381 (October 2008) that contains numerous errors and falsehoods about ABI, and was tailored to boost IIT equipment made by Frontics, Inc., a South Korean company.

91. In 2010 Haggag first approached Low with a request to submit a New Work Item Proposal for the ABI Test Method. Without polling the delegates and voting members of the US Technical Advisory Group, Low responded that the SC3 members were not interested in the ABI test method, and they had instead published the misleading ISO report TR/29381 discussed above.

92. Haggag next requested that Ruth submit a New Work Item Proposal to ISO TC 164/SC1 on uniaxial testing. The item was balloted to the voting members of the US TAG through ASTM

subcommittee E28.94. To Ruth's surprise, the US TAG approved the new work item by 2/3 majority and the measure was submitted to ISO through the American National Standards Institute (ANSI) for an official 3-month international ballot by the voting (P-member) countries.

93. After the ABI draft vote passed under the US TAG for SC 1, Low then "offered" to include the ABI draft under the same misleading and disparaging TR/29381 report under his SC 3 subcommittee. Haggag refused because the requestors of the ABI standardization activity were interested in a proven ABI standard not a misleading and unproven report.

94. Immediately, in 2011 both Low and Ruth started their conspiracies to sabotage the commissioning of ABI under ISO TC 164/SC 1 on uniaxial testing and embarked on two actions against the ABI technique.

95. First in order to make it appear that the misleading report TR/29381 was more like a standard, Low requested a 5-year systematic review even though the report was less than three years old. Such a systematic review is required only for issued standards and is not required for any report. Low also scheduled the inappropriate review to overlap with the ABI standard international balloting. As a result, the voting members were guided to believe the proposed ABI standard was a duplication of the existing TR/29381 report.

96. Second, Low contacted the ISO Secretariat and claimed that ABI was a duplicate of the ISO Report TR/29381 and that any new activity (if any) must be under the hardness SC 3 subcommittee and not under SC 1 on uniaxial testing even though he had claimed earlier that no one on the subcommittee was interested in the ABI activity.

97. Low also sent the misleading ISO TR/29381 report to many of the ISO P-members of SC 1 who were voting on the proposed ABI Standard so that it would confuse the voters into thinking that ABI was the same technique as IIT.

98. Ruth's lobbying efforts against ABI went into full gear in 2010 and 2011.

99. In 2010 at the Boulder, CO, meeting, Ruth talked to the chairman of ISO SC 1 on uniaxial testing, claiming that ABI did not belong to SC 1, and that if any activity were approved, it must be under SC 3 on hardness.

100. In 2011, Ruth sent an email to the SC 1 Chairman repeating this same claim.

101. The jurisdictional claims of both Low and Ruth were false and have no technical merits. By making these claims, the pair were able to capture the proposed ABI standard activity in a Catch-22 situation, bouncing between the SC 1 and SC 3 subcommittees.

102. Despite the negative publicity by Low and Ruth, the ABI measure received majority approval of the SC 1 P-member countries - the ISO's major and first requirement for the approval of a new activity.

103. However, the second ISO requirement is that five countries must agree to participate in the draft development, and only two countries (USA and China) agreed to participate in the development of a draft ABI standard.

104. Haggag contacted the ISO and requested an equipment and test methods demo for all available equipment to demonstrate the differences between the ABI and IIT methods and to resolve the jurisdiction question.

105. ISO acknowledged that a joint meeting must be held during the Annual Meeting in September 2011 in Paris, France in order to resolve jurisdiction between SC 3 and SC 1. Ruth continued to sabotage the ABI activity, however, and refused to schedule this joint meeting.

106. Even though Haggag was aware of Ruth's efforts to stymie the ABI activity, ISO rules mandate that all communication come through the Head of Delegates (ASTM E28.94 US TAG to ISO TC 164/SC 1). Accordingly, Haggag requested that Ruth, as Head of Delegates, contact the

ISO to request and schedule a test method and equipment demo for all interested countries.

107. Instead, Ruth continued his lobbying efforts by unilaterally putting two ballot items out for a vote, instead of making the requested demo item. The first ballot item asked whether the ABI activity should be continued. Ruth worded the ballot item to make the point that ABI had “failed” the ISO requirements to start the activity.
108. In fact, the ABI activity actually received the required majority number of votes but, simply did not receive the required five P-member countries to participate in minor draft development. This first item number 1 should not have been balloted since the US TAG had already decided by a 2/3 majority to advance the activity. The second ballot item called for the demo to be conducted only if ballot Item number 1 was approved.
109. This two-item ballot was officially conducted by ASTM E28.94 for one month from July 27, 2011 and closed on August 26, 2011.
110. When it closed, Ruth claimed in an e-mail message that the ballot result for the first item was 4 negative, 2 affirmative, and 10 abstention votes, and, therefore, refused to request the demo. Haggag requested the official results of the ASTM ballot from Ruth and from ASTM Staff Manager Joe Koury, but ASTM never posted any official ballot results and refused to provide the names of the four negative voters as is required.
111. On September 5, 2011, after the close of the ISO/ABI ballot, Haggag reviewed the information of all voting US TAG to ISO TC 164/SC 1 from the ASTM website and found that MTS had two voting members with their voting status approved on the same day of March 21, 2011 (although each Producer is allowed only one vote and should choose which member is given voting status).
112. Haggag complained to both Ruth and Koury that the MTS double voting status invalidated

the ISO/ABI ballot of the US TAG and requested that ASTM provide the official ballot results. Koury and Ruth refused Haggag's request. Nevertheless on September 12, 2011, ASTM quietly changed the voting status of one of the two MTS members from voting to non-voting because of the redundancy. Haggag captured this fact from ASTM's website.

113. At this point, it became clear to Haggag that the four defendants were in collusion against the ABI technology. To confirm his suspicions, Haggag sent an email to Koury and Ruth asking them to name the four negative voters because he suspected they were from Instron, Tinius Olsen, and MTS. Koury responded, reply that he could not provide the names of the negative voters and that Haggag should get the results from Ruth. Ruth likewise would not reveal the identities of the negative voters.

114. Thus the cartel actively operated to keep the collusion hidden and undiscoverable.

#### **The Defendants' Efforts Have Damaged ATC**

115. If the cartel of ATC's competitors had not blocked ABI from receiving a standard test method from ASTM or ISO as described above, ABI would now represent a significant share of the testing equipment market. As the primary manufacturer of ABI equipment, ATC would have earned a large portion of that market shift.

116. In addition, the misleading ISO Technical Report 29381 discussed above has been used to discredit and disparage the ABI technique.

117. For instance, Vectren Energy, in 2009, requested a quotation for ABI testing on 317 miles of undocumented pipeline worth approximately \$5M. In an email, John Cline the engineer with Vectren said they would not continue with the work because of the ISO TR 29381. He was confused and thought the TR 29831 was an ISO Standard and that IIT was the same as ABI.

118. In 2008, Cameron Ltd., requested a quotation for ABI testing for its client Chevron Pipeline

Company. Chevron sent a document that stated two companies perform ABI testing and required the testing be run according to the “ISO Standard TR 29381.” ATC replied that it was the only company that performed ABI testing, and it was vastly different from IIT. ATC also informed Cameron and Chevron that TR 29381 was only a Technical Report and not an accepted ISO standard.

119. ATC believes many other companies have been similarly deceived by the Defendants actions.

FIRST CAUSE OF ACTION

Sherman Act, Section 1, 15 U.S.C. § 1

120. Paragraphs 1 through 108 are incorporated here as if stated in full.
121. The conduct of the Defendants described above, specifically their agreement to prevent any promulgation of a standard for ABI constitutes a per se violation of Section 1 of the Sherman Act, 15 U.S.C. § 1. The Defendants engaged in a conspiracy in restraint of trade and group boycott of the principal business of ATC, the ABI technique. Their action was intended to cause – and did cause – damages to ATC in the form of lost sales, profits and investment, rendering ATC’s business a fraction of what it could have expected if not for the conspiracy.
122. The conduct of the Defendants also constitute a violation of Section 1 of the Sherman Act, 15 U.S.C. § 1 under the full rule.
123. The Defendants have market power in the relevant markets. Their conduct to stifle innovation creates an unjustifiable barrier to entry and innovation and restricts consumer choice in the relevant market. The Defendants’ agreement to prevent the promulgation of an ASTM or ISO standard for the ABI technique unreasonably restrains trade and competition in the relevant market by excluding from the market a new method of mechanical testing that would have opened the

market to new competition.

124. Due to the illegal actions of the Defendants as described here, ATC is entitled to the remedy provisions provided in §§ 4 and 16 of the Clayton Act, 38 Stat. 731, as amended, 15 U. S. C. §§ 15, 26.

### SECOND CAUSE OF ACTION

Unfair Business Practices, Chapter 93A § 2(a) of the Massachusetts General Laws

125. Paragraphs 1 through 115 are incorporated here as if stated in full.
126. At all times relevant, the Defendants and the Plaintiffs were engaged in business.
127. The Defendants' concerted and individual efforts to prevent the promulgation of an ABI standard constitute unfair methods of competition and unfair or deceptive acts or practices in the conduct of any trade or commerce.
128. The Defendants' conduct described here was conducted willfully and knowingly.
129. As a result of the unfair or deceptive acts or practices, ATC has sustained damages.

### THIRD CAUSE OF ACTION

Common Law Commercial Disparagement

130. Paragraphs 1 through 119 are incorporated here as if stated in full.
131. As described here, the Defendants have made a series of false statements or implied false statements regarding the ABI technique that have continued to 2011.
132. These statements were made with malice against ATC.
133. As a result of the malicious and false statements, ATC has sustained special damages in the form of lost earnings.

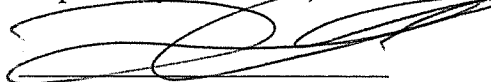
WHEREFORE, the plaintiff prays that this Court:



1. Enter judgment for ATC against the defendants;
2. Award damages to ATC in an amount to be determined by the Court;
3. Award multiple damages to ATC pursuant to § 4 of the Clayton Act, 38 Stat. 731, as amended, 15 U. S. C. §§ 15.
4. Award multiple damages to ATC pursuant to Mass. Gen. L. c. 93A;
5. Award interest, costs, and attorneys' fees to ATC;
6. Pursuant to § 16 of the Clayton Act, 38 Stat. 731, as amended, 15 U. S. C. §§ 26, enjoin the Defendants from interfering with ATC's efforts to establish a professional standard for the ABI technique; and
7. Award such other relief as this Court deems just and proper.

Boston, Massachusetts  
January 30, 2012

Respectfully submitted,



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tcornell@pkjlaw.com

JS 44 (Rev. 09/11)

**CIVIL COVER SHEET**

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)

**I. (a) PLAINTIFFS**

Advanced Technology Corporation

(b) County of Residence of First Listed Plaintiff Anderson  
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys (Firm Name, Address, and Telephone Number)  
Timothy Cornell, Perry, Krumsiek & Jack LLP, 101 Arch Street, 19th Fl.,  
Boston, MA 02110 (617) 720-4300

**DEFENDANTS**

Instron, Inc.

County of Residence of First Listed Defendant Norfolk  
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys (If Known)

**II. BASIS OF JURISDICTION** (Place an "X" in One Box Only)

- ☐ 1 U.S. Government Plaintiff ☒ 3 Federal Question (U.S. Government Not a Party)
- ☐ 2 U.S. Government Defendant ☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

**III. CITIZENSHIP OF PRINCIPAL PARTIES** (Place an "X" in One Box for Plaintiff and One Box for Defendant)

- |   |                                       |   |   |                                       |   |
|---|---------------------------------------|---|---|---------------------------------------|---|
| Citizen of This State                   | PTF <input type="checkbox"/> 1        | DEF <input checked="" type="checkbox"/> 1 | Incorporated or Principal Place of Business In This State     | PTF <input type="checkbox"/> 4        | DEF <input checked="" type="checkbox"/> 4 |
| Citizen of Another State                | <input checked="" type="checkbox"/> 2 | <input checked="" type="checkbox"/> 2     | Incorporated and Principal Place of Business In Another State | <input checked="" type="checkbox"/> 5 | <input checked="" type="checkbox"/> 5     |
| Citizen or Subject of a Foreign Country | <input type="checkbox"/> 3            | <input type="checkbox"/> 3                | Foreign Nation  | <input type="checkbox"/> 6            | <input type="checkbox"/> 6                |

**IV. NATURE OF SUIT** (Place an "X" in One Box Only)

<b>CONTRACT</b>	<b>TORTS</b>	<b>FORFEITURE/PENALTY</b>	<b>BANKRUPTCY</b>	<b>OTHER STATUTES</b>
<input type="checkbox"/> 110 Insurance <input type="checkbox"/> 120 Marine <input type="checkbox"/> 130 Miller Act <input type="checkbox"/> 140 Negotiable Instrument <input type="checkbox"/> 150 Recovery of Overpayment & Enforcement of Judgment <input type="checkbox"/> 151 Medicare Act <input type="checkbox"/> 152 Recovery of Defaulted Student Loans (Excl. Veterans) <input type="checkbox"/> 153 Recovery of Overpayment of Veteran's Benefits <input type="checkbox"/> 160 Stockholders' Suits <input type="checkbox"/> 190 Other Contract <input type="checkbox"/> 195 Contract Product Liability <input type="checkbox"/> 196 Franchise	<b>PERSONAL INJURY</b> <input type="checkbox"/> 310 Airplane <input type="checkbox"/> 315 Airplane Product Liability <input type="checkbox"/> 320 Assault, Libel & Slander <input type="checkbox"/> 330 Federal Employers' Liability <input type="checkbox"/> 340 Marine <input type="checkbox"/> 345 Marine Product Liability <input type="checkbox"/> 350 Motor Vehicle <input type="checkbox"/> 355 Motor Vehicle Product Liability <input type="checkbox"/> 360 Other Personal Injury <input type="checkbox"/> 362 Personal Injury - Med. Malpractice	<b>PERSONAL INJURY</b> <input type="checkbox"/> 365 Personal Injury - Product Liability <input type="checkbox"/> 367 Health Care/ Pharmaceutical Personal Injury Product Liability <input type="checkbox"/> 368 Asbestos Personal Injury Product Liability <b>PERSONAL PROPERTY</b> <input type="checkbox"/> 370 Other Fraud <input type="checkbox"/> 371 Truth in Lending <input type="checkbox"/> 380 Other Personal Property Damage <input type="checkbox"/> 385 Property Damage Product Liability	<input type="checkbox"/> 625 Drug Related Seizure of Property 21 USC 881 <input type="checkbox"/> 690 Other	<input type="checkbox"/> 422 Appeal 28 USC 158 <input type="checkbox"/> 423 Withdrawal 28 USC 157 <b>PROPERTY RIGHTS</b> <input type="checkbox"/> 820 Copyrights <input type="checkbox"/> 830 Patent <input type="checkbox"/> 840 Trademark
<b>REAL PROPERTY</b> <input type="checkbox"/> 210 Land Condemnation <input type="checkbox"/> 220 Foreclosure <input type="checkbox"/> 230 Rent Lease & Ejectment <input type="checkbox"/> 240 Torts to Land <input type="checkbox"/> 245 Tort Product Liability <input type="checkbox"/> 290 All Other Real Property	<b>CIVIL RIGHTS</b> <input type="checkbox"/> 440 Other Civil Rights <input type="checkbox"/> 441 Voting <input type="checkbox"/> 442 Employment <input type="checkbox"/> 443 Housing/ Accommodations <input type="checkbox"/> 445 Amer. w/Disabilities - Employment <input type="checkbox"/> 446 Amer. w/Disabilities - Other <input type="checkbox"/> 448 Education	<b>PRISONER PETITIONS</b> <input type="checkbox"/> 510 Motions to Vacate Sentence <b>Habeas Corpus:</b> <input type="checkbox"/> 530 General <input type="checkbox"/> 535 Death Penalty <input type="checkbox"/> 540 Mandamus & Other <input type="checkbox"/> 550 Civil Rights <input type="checkbox"/> 555 Prison Condition <input type="checkbox"/> 560 Civil Detainee - Conditions of Confinement	<b>LABOR</b> <input type="checkbox"/> 710 Fair Labor Standards Act <input type="checkbox"/> 720 Labor/Mgmt. Relations <input type="checkbox"/> 740 Railway Labor Act <input type="checkbox"/> 751 Family and Medical Leave Act <input type="checkbox"/> 790 Other Labor Litigation <input type="checkbox"/> 791 Empl. Ret. Inc. Security Act	<b>SOCIAL SECURITY</b> <input type="checkbox"/> 861 HIA (1395ff) <input type="checkbox"/> 862 Black Lung (923) <input type="checkbox"/> 863 DIWC/DIWW (405(g)) <input type="checkbox"/> 864 SSID Title XVI <input type="checkbox"/> 865 RSI (405(g))
			<b>FEDERAL TAX SUITS</b> <input type="checkbox"/> 870 Taxes (U.S. Plaintiff or Defendant) <input type="checkbox"/> 871 IRS—Third Party 26 USC 7609	<input type="checkbox"/> 375 False Claims Act <input type="checkbox"/> 400 State Reapportionment <input checked="" type="checkbox"/> 410 Antitrust <input type="checkbox"/> 430 Banks and Banking <input type="checkbox"/> 450 Commerce <input type="checkbox"/> 460 Deportation <input type="checkbox"/> 470 Racketeer Influenced and Corrupt Organizations <input type="checkbox"/> 480 Consumer Credit <input type="checkbox"/> 490 Cable/Sat TV <input type="checkbox"/> 850 Securities/Commodities/Exchange <input type="checkbox"/> 890 Other Statutory Actions <input type="checkbox"/> 891 Agricultural Acts <input type="checkbox"/> 893 Environmental Matters <input type="checkbox"/> 895 Freedom of Information Act <input type="checkbox"/> 896 Arbitration <input type="checkbox"/> 899 Administrative Procedure Act/Review or Appeal of Agency Decision <input type="checkbox"/> 950 Constitutionality of State Statutes

**V. ORIGIN**

(Place an "X" in One Box Only)

- ☒ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Reopened ☐ 5 Transferred from another district (specify) ☐ 6 Multidistrict Litigation

**VI. CAUSE OF ACTION**

Cite the U.S. Civil Statute under which you are filing (Do not cite jurisdictional statutes unless diversity):  
15 U.S.C. Section 1

Brief description of cause:

Antitrust conspiracy to block Advanced Technology Corporation's main technology from the marketplace

**VII. REQUESTED IN COMPLAINT:**

☐ CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23

DEMAND \$  
90,000,000.00

CHECK YES only if demanded in complaint:  
JURY DEMAND: ☐ Yes ☒ No

**VIII. RELATED CASE(S) IF ANY**

(See instructions):

JUDGE

DOCKET NUMBER

DATE

01/30/2012

SIGNATURE OF ATTORNEY OF RECORD

FOR OFFICE USE ONLY

RECEIPT #

AMOUNT

APPLYING IFP

JUDGE

MAG. JUDGE